

PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

SERIES C. JOURNAL OF MEETINGS

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ORDINARY MEETING.

WEDNESDAY, 2ND JUNE, 1954, at 5.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 5th May, 1954.
2. Recommendations of candidates for Fellowship. First reading.
3. Recommendations of candidates for Fellowship. Second reading.
4. Announcement of election of new Fellows.
5. Additions to the Library. [See p. 19.]
6. Admission of Fellows.
7. Exhibits.

Fellows are particularly requested to bring suitable exhibits to the Meeting even though it may not be possible to announce their intention to do so beforehand.

Note.—To avoid congestion in the Library and to enable exhibits to be displayed to greater advantage, a table has been placed in the meeting-room for this purpose. Fellows are asked to place their exhibits on this table with a suitable explanatory note, as soon as possible on the afternoon of the meeting, so that they are available for inspection there before the meeting opens.

8. Communications.

1. Dr. A. G. Hamilton.

Parthenogenesis in the Desert Locust (*Schistocerca gregaria* Forsk.) and its possible effect on the maintenance of the species.

[ABSTRACT.]

It has been found that this species of locust is able to reproduce parthenogenetically at both constant and alternating temperatures. Up to the time of writing the 5th generation of adults has been obtained and all have been females. The length of life of females reproducing parthenogenetically is much longer than that of females reproducing sexually. Parthenogenetically produced females have been mated and the progeny have been approximately 50-50 males and females.

The numbers of chromosomes in both sexually and parthogenetically produced females have been studied.

2. Dr. I. Common (a visitor).

Migration and gregarious aestivation in the Australian Bogong Moth, *Agrotis infusa* (Boisduval).

[ABSTRACT.]

Whereas many coccinellid beetles, a few Hymenoptera and some Hemiptera are known to form assemblages for hibernation or aestivation, this behaviour does not appear to be of common occurrence in the Lepidoptera. A notable exception is the monarch butterfly of North America, *Danaus plexippus*, which passes the winter in gregarious clusters after migration to southern California and Florida. Although large summer assemblages of the Australian agrotid moth, *Agrotis infusa* (Boisd.), were reported as early as 1834 by Bennett, only recently has it been discovered that these assemblages are of annual occurrence.

The larva of this species is an important cutworm pest of winter crops and pastures grown on heavy clay soils throughout a large area of New South Wales and southern Queensland. After emergence in the spring, the adults migrate in a southerly direction to the Australian Alps. At altitudes greater than about 5,000 ft. they congregate in well-defined "camps" amongst the granitic outcrops where they aestivate gregariously in small caves and fissures until the late summer and autumn, after which they migrate once more, this time in the opposite direction towards their breeding areas. During aestivation, the moths remain sexually immature and apparently do not seek food.

By means of migration and aestivation the species completes only a single generation each year, although experiments have shown that it is a multivoltine species. The implications of this complex behaviour pattern are considered in relation to the ecology of the species in Australia.

THE SOCIETY'S DEVELOPMENT POLICY.

As foreshadowed by Council in the Annual Report for 1953, consideration is being given to lines of development open to the Society.

A suggestion that the Society's field of activity might be extended to include all Land Arthropods is now before Council.

To do this it will be necessary to extend the Library to cover Arachnids, Mites and their allies and to institute a journal to provide an avenue for the publication of papers on these groups.

An indication of the views of Fellows would be of help to Council in their deliberations, and expressions of opinion from Fellows and others for whom the extended activities would cater would be appreciated.

SIXTH COMMONWEALTH ENTOMOLOGICAL CONFERENCE, JULY, 1954.

Postcards enabling Fellows to apply for tickets for the conversazione to be held on Tuesday, 13th July, in honour of the delegates to the above Conference are enclosed with copies of these agenda sent to addresses in this country. Fellows who hope to be present are asked to complete and return the card by 24th June.

The Honorary Secretary would be grateful if any Overseas Fellows who expect to be in England at that time would notify him, giving addresses to which cards may be posted.

WEEK-END MEETING IN YORK,

23rd-26th JULY, 1954.

Fellows who hope to attend the week-end meeting in York are asked to complete and return the application form enclosed with the last issue of these *Proceedings* by 30th June.

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 5TH MAY, 1954.

Dr. W. J. HALL, C.M.G., Vice-President, in the Chair.

Present, 91 Fellows and 16 Visitors.

Before the meeting opened Dr. Hall announced that the President was absent in Panama and before leaving had asked him to take the Chair at this meeting.

Dr. Hall then extended a welcome to Mr. A. D. Pickett of the Entomological Laboratory, Kentville, Nova Scotia.

He also welcomed Dr. Malcolm Burr, a Fellow of the Society for nearly sixty years and now resident in Istanbul, who was paying his first visit to London since 1939, and Mr. B. B. Given of the Cawthron Institute, Nelson, New Zealand, recently elected a Fellow of the Society.

Miss Cheesman pointed out that the statement in the minutes (page 13) that there was in the Cambridge University Museum a collection of insects from Lifu Island had proved to be somewhat misleading, as the material amounted to only a few specimens. It was agreed that no correction of the minutes was necessary.

The Minutes of the Ordinary Meeting held on 7th April were confirmed and signed by the Vice-President.

The Secretary announced details of a Fund which had been started to provide a memorial to the late Harry Britten, an Honorary Fellow of the Society.

The names of the following candidates were read for the first time: Mr. Peter Bernard Cornwell; Mr. James Stephen Charles Dealey; Mr. Michael George Morris; Mr. Barry Arthur Penney; Miss Phyllis Lorraine Robertson; Mr. Audfinn Tjønneland.

For the second time (taken as read): Dr. George F. Edmunds, Jr.; Mr. David Stephen Fletcher; Mr. John Francis Deryk Frazer; Monsieur Henri Stempffer; Mr. P. A. Subramaniam, M.Sc.; Miss Maureen Anne Turner.

The Secretary read the names of the following newly elected Fellows of the Society: Miss Emy M. E. von Bertele, Riseholme, 6, Warren Road, Purley, Surrey; Major Charles Francis Cowan, R.A., 8, Gledhow Gardens, London, S.W.5; Mr. John Forsyth Davidson, J.P., School House, Lumphanan, Aberdeenshire; Mr. Charles Edward Dyte, Department of Zoology, The University, Bristol; Mr. Bernard Charles Albert Earl, 2, South Park, Loose Road, Maidstone, Kent; Mr. V. Kumar Gupta, 1479—Punjabi Mohalla, Subzi Mandi, Delhi, India; Dr. John Douglas Hood, Department of Biology, Cornell University, Ithaca, N.Y., U.S.A.; Father Guillermo Kuschel, Casilla 4150, Moneda 1661, Santiago, Chile; Miss Helen Margaret Morris, Mazoe, 104, Midford Road, Combe Down, Bath, Somerset; Mr. Charles Ronald Ribbands, Rothamsted Experimental Station, Harpenden, Herts.;

Mr. Suresh Chandra Saxena, Imperial College Field Station, Silwood Park, Sunninghill, Berkshire; Mr. Hattiyangadi Shantaram, Imperial College Field Station, Silwood Park, Sunninghill, Berkshire; Mr. Gurdas Singh, Deputy Locust Entomologist, Bikaner, India; Mr. Prakash C. Singha, Kotgarh, Simla, India; Mr. Gerald Stell, Department of Zoology, The University, Glasgow, W.2; Professor O. Theodor, Department of Parasitology, The Hebrew University, Jerusalem, Israel; Mr. Johan George Theron, 7, The Barons, St. Margarets, Twickenham, Middx.

Thanks were voted to donors of gifts to the Library since the last meeting.

Dr. Shah Mashhood Alam, Mr. B. B. Given, Mr. H. M. Hanna, Dr. A. A. Lisney, Miss H. M. Morris, Mr. J. G. Theron and Mr. W. J. Watts signed the Obligation Book and were admitted Fellows of the Society.

The following papers, accepted for publication in the *Transactions*, were read in title:

"A revision of the genus *Aphnaeus* Hübner (Lepidoptera: Lycaenidae)," by H. Stempffer.

"Orthoptera-Ensifera from Northern Kenya and Jubaland," by L. Chopard and D. K. Kevan.

"A revision of the *lugubris* complex in the genus *Meligethes* Stephens (Coleoptera: Nitidulidae)," by A. M. Easton.

"The *Paragus serratus* complex with descriptions of new species (Diptera: Syrphidae)," by B. R. Stuckenberg.

"The feeding habits and food preferences of Acrididae and the factors which determine them," by L. H. Williams. [Communicated by Professor O. W. Richards.]

"Keys to the described species of New Zealand Psychodidae (Diptera) with descriptions of eight new species," by G. H. Satchell.

"The higher classification of the family Issidae (Homoptera: Fulgoroidea), with descriptions of new species," by R. G. Fennah.

"The adult stages of *Prosopistoma* (Ephemeroptera), with descriptions of two new species from Africa," by M. T. Gillies.

The Honorary Secretary, on behalf of Miss K. O. Victoria Lieu, exhibited 30 photographs of plates made to illustrate a Monograph on the Wood Borers attacking Living Trees in China. Mr. Britton said that Miss Lieu had spent 14 years in China collecting and studying the biology of wood-boring insects which attack living trees. Since 1947 Miss Lieu has held Scholarships in the United States, at the Ohio State University and in Manhattan, Kansas, and during this time has prepared the results of her research for publication. Unfortunately in 1951 Manhattan experienced severe flooding and Miss Lieu's manuscript, deposited in a safe deposit, was destroyed. Undaunted by the tragic loss of the results of so many years work the author began the replacement of the manuscript. The work is now nearing completion and the photographs exhibited show samples of the plates.

Mrs. Richardson said that during her stay in China she had an opportunity of seeing Miss Lieu's work while it was in progress and was very impressed by her great success in breeding these wood-boring insects and keeping larvae alive under laboratory conditions.

Prof. O. W. Richards gave a paper on wingless flies, an abstract of which appeared on page 9.

A short discussion followed in which Dr. J. W. Evans remarked that in a collection of Jassids he had recently seen from Juan Fernandez 90 per cent. of the species were wingless or had reduced wings, and in mountain Jassids winged and wingless forms occurred in the same species. Prof. Richards replied that a lot of field work would be necessary to determine whether this was also the case in Diptera.

Mr. Garrett-Jones enquired whether the production of wingless forms, which occurred in a number of families, was possibly connected with feeding habits; the family Empididae, for instance, were predatory, feeding on dying or dead flies washed down in streams. Prof. Richards replied that the Sphaeroceridae were certainly not predatory and probably fed on micro-organisms. Nearly all families which had wingless species in Ruwenzori had wingless species all over the world, suggesting that some families lose their wings more readily than others. He doubted whether their feeding habits were a determining factor.

Dr. K. Mellanby gave a paper on the effect of sub-lethal high temperatures on the pupae of the mealworm *Tenebrio molitor* L., an abstract of which appeared on page 10.

Dr. Mellanby said, in reply to an enquiry, that while the interaction of humidity and temperature had not been investigated in this particular case, desiccation had been taken into account and the deformities were not desiccation effects.

Mr. Potts said he felt Dr. Mellanby's paper might help to explain similar experiences he had had with Tsetse fly puparia kept in captivity, a large number of the adults of which failed to expand their wings.

Before the meeting closed Mr. Hawkins called attention to the objections now being raised in the press to the South orbital road it was proposed to construct over part of the North Downs, and suggested that Council might suitably associate itself with an official protest.

In reply to a suggestion that the Society might maintain liaison with official organisations on matters of nature protection, the Secretary said that the Society already had a Committee for the Protection of British Insects which was in touch with bodies such as Nature Conservancy and the Forestry Commission.

E. B. BRITTON, *Honorary Secretary.*

The next meeting will be held on 23rd-26th July at York.

ADDITIONS TO THE LIBRARY.

Presented.

- Bátörliget élővilága* [Fauna and flora of Bátörliget Nature Reserve]. 8vo. Budapest. 1953. [Dr. Z. Kaszab.]
- Burr, Malcolm. *The insect legion*. 2nd edn. 8vo. London (Nisbet), 1954. [The publishers.]
- Butler, Colin G. *The world of the honeybee*. New Naturalist. 8vo. London (Collins), 1954. [The publishers.]
- Linssen, E. F., and Newman, L. Hugh. *The Observer's book of common British insects and spiders*. 12 mo. London (Warne), 1953. [The Publishers.]
- Massee, A. M. *The pests of fruit and hops*. 3rd edn., revised. 8vo. London (Crosby Lockwood), 1954. [The Publishers.]
- Poisson, R. *Exploration du parc national Albert. Mission G. F. de Witte (1933-1935). Fasc. 58. Hémiptères aquatiques*. Bruxelles. 1949. [Zoological Society of London.]
- Snodgrass, R. E. *Insect metamorphosis*. *Smithson. misc. Coll.* 122 (9): 124 pp., 1954. [The Author.]
- Verity, Roger. *Le farfalle diurne d'Italia*. Translation of parts of vols. 1-3. By Philip Catcheside. With notes and index of parts translated. fscp. typescript. 1949-50. 2 copies (one for reference, one for loan). [Mr. P. Siviter Smith.]

Purchased.

- Stach, Jan. *The apterygotan fauna of Poland in relation to the world fauna of this group of insects. Family Onychiuridae*. 8vo. Kraków. 1954.
- Thompson, W. R., editor. *Host parasite catalogue. Part 2. Hosts of the Hymenoptera (Agaonidae to Braconidae)*. 4to. Ottawa. 1953.
- Wasmann, Erich. *Die Ameisen, die Termiten und ihre Gäste*. 4to. Regensburg. 1934.

In addition, separates have been presented by Mr. R. F. Bretherton; Professor P. A. Buxton, C.M.G., F.R.S.; Commonwealth Institute of Entomology; Mr. A. J. P. Goodchild; Dr. D. S. Kettle; Dr. K. Mellanby, C.B.E.; United States Department of Agriculture; Mr. D. K. McE. Kevan; Mr. E. T. Giles; and Capt. E. F. Linssen.